

SCHOTTKY BARRIER DIODE AND METHOD OF
MAKING THE SAME

Abstract of the Invention

A power Schottky rectifier device having a plurality of first
5 trenches filled in with an un-doped polycrystalline silicon layer and each
first trenches also has a p-region beneath the bottom of said first
trenches to block out reverse current while a reverse biased is applied
and to reduce minority carrier while forward biased is applied. Thus, the
power Schottky rectifier device can provide first fast switch speed. The
10 power Schottky rectifier device is formed with termination region at an
outer portion of the substrate. The manufacture method is also provided.